

**PLANT PATENT  
[File No. 13519.0005.NPUS01]**

**APPLICATION FOR UNITED STATES PLANT PATENT**

**for**

**CHRYSANTHÉMUM PLANT NAMED 'ESPERANTO HAPPY'**

**by**

**Richard Hammond  
Apartado 75, Santa Brigida, 35300 Las Palmas, Gran Canaria, Espana  
Citizenship: United Kingdom**

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*Beverly A. Lee*  
Beverly A. Lee

This application claims the benefit of U.S. Provisional Application No. 60/413,586, filed September 24, 2002.

LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: *Chrysanthemum morifolium*.

5 VARIETY DENOMINATION

The new Chrysanthemum variety denomination is 'Esperanto Happy.'

BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as *Chrysanthemum morifolium*, and referred to by 10 the cultivar name 'Esperanto Happy'.

'Esperanto Happy' originated from whole plant mutation grown in a controlled planting of the variety 'Esperanto Improved' in Valsequillo, Gran Canaria, Spain. The new variety 'Esperanto Happy' has been asexually reproduced by vegetative cuttings in Chichester, West Sussex, United Kingdom and the 15 distinguishing characteristics are retained through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

'Esperanto Happy' is a pot type of Chrysanthemum plant variety having red/yellow striped single flowers.

20 Comparison with Parent

Plants of the new Chrysanthemum variety 'Esperanto Happy' are similar to the parent cultivar 'Esperanto Improved' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, 25 comparisons of the new Chrysanthemum variety 'Esperanto Happy' compared to plants of the parent cultivar 'Esperanto Improved' in the following characteristics.

1. The new variety 'Esperanto Happy' produces red/yellow striped single flowers whereas the parent cultivar 'Esperanto Improved' produces pink/white striped single type flowers.

2. Plants of the new variety 'Esperanto Happy' have similar inflorescence to the plants of the parent cultivar 'Esperanto Improved'.

#### BRIEF DESCRIPTION OF ILLUSTRATIONS

5 Typical specimens of the plant and flowers for the new Chrysanthemum variety 'Esperanto Happy' are shown in the accompanying digital photograph. The colors shown are as true as possible within the usual limits of this kind of illustration which is a whole plant view of the new variety 'Esperanto Happy' grown in a pot. The plant shown in the illustration is 53 days from commencement of short days.

#### DETAILED BOTANICAL DESCRIPTION

10 The following description of the new Chrysanthemum variety 'Esperanto Happy' is of plants grown in a greenhouse in Chichester, West Sussex, United Kingdom in the month of February. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. 15 The commercial classification of the new variety is a pot Chrysanthemum.

Plants of the new variety have been grown successfully under temperature conditions averaging about 18°C at night and about 24°C to 25°C during the day under light conditions of about 5000 to 6000 foot candles. The plants respond well to the use of growth retardant, such as B9 treatment. To produce a commercial product the plants may be pinched once with the center bud removed. The typical container size for commercial growth is 14cm. It has been observed that the shelf life of the new variety is about 24 days with a response time of about 8 weeks. The new variety is suitable for growth in a temperature range of 17°C to 28°C.

20 25 The following description is with respect to a plant produced as pot Chrysanthemum. In the description of this new Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

Plant

Plant type: Pot

Habit: Upright and free branching

Height: 23 cm

5 Width: 35 cm

Branching characteristics: Upright and free branching

Length of Lateral Branches: 6-11 cm

Number of Breaks from Pinch: 3-5

10 Stem Color: 137A

Response Time: 53 days

Vigor: Medium

Shelf Life: 24 days

Disease/Pest (Susceptibility/Resistance observed): None observed to date

15 Growth retardant type and treatment: 3 applications of 2.5gm/litre B9 at 2, 21, 28 days after the commencement of sticking of unrooted cuttings.

The plants were grown for 3 weeks in Long Day conditions (20 hours of light)and then transferred to Short Day conditions (13 hours of dark).

Propagation:

20 Type: Vegetative Propagation Via Stem Cuttings

Time to rooting: 12-14 days with soil temperatures of 18°C.

Rooting habit: Fine and fibrous

Foliage

Number of Leaves Per Lateral Branch: 8-11

25 Compound or single: Single

Arrangement of Leaves: Alternate

Shape of Leaf: typically 5 lobed ovate

Size of Leaf: Width (cm): 3.5-7 Length (cm): 5-10

Leaf Apex: Acute

30 Base: Obtuse

Attachment: Petioled

Aspect: Slightly Undulating  
 Margin: Palmately Lobed  
 Surface characteristics:      *Top*: Slightly Pubescent  
                                   *Bottom*: Pubescent

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Petiole:      Color: 137B  
                   Length: 1.5 cm

Venation: net prominent midvein at underside

*Color: upper side*: Near 137A

*under side*: Near 13 8A

10      Color:      Mature Leaf, *upper side*: Near 137A; *under side*: Near 138A  
             Young Leaf, *upper side*: Near 137B; *underside*: Near 138B

#### Flower

Flower appearance: Circular slightly cupped

15      Flower type: Single

Flower form: Cupped

Flower shape: Circular

Flowering habit: Cyme

Number of blossoms per branch: 3-5

20      Inflorescence form: Pyramidal

Depth of fully expanded blossoms: 2 cm

Diameter of fully expanded blossoms: 6-8 cm

Phyllaries:

*Number*: 28-30

25      *Color*: near 136C

*Length*: 0.5-0.9 cm

*Width*: 0.2-0.4 cm

*Texture/Appearance*: Pubescent

Peduncle: Peduncle length is shortest at the terminal flower and progressively longer  
 30      moving down the stem.

*Length*: 2.5-10 cm

*Color:* near 136C  
*Surface:* Pubescent  
*Habit:* Slightly curving  
*Strength:* Medium

5 Pedicel: *Length:* terminal: 1.5- 3.5 cm; lateral: 1.5-6 cm

*Color:* Near 138B  
*Surface:* Pubescent  
*Habit:* Slightly curving  
*Strength:* Medium

10 Ray florets:

*Form/Shape:* Straight  
*Texture/Appearance:* Matte  
*Number per flower:* 25-30  
*Length:* 3-3.5 cm; *Width:* 0.8-1.2 cm

15 *Apex:* Rounded  
*Base:* Tapered  
*Margin:* Entire

Disc florets:

20 *Form/Shape:* Cylindrical  
*Texture/Appearance:* Shiny  
*Number per flower:* 170-250  
*Length:* 0.3-0.6 cm; *Width:* <0.1-0.1 cm  
*Diameter of disc:* 1.2-1.5 cm

Fragrance: Faint

25 Flower Bud (at onset of color):

*Length:* 1.5 cm  
*Diameter:* 1 cm  
*Form/Shape:* Globular

General flower color:

30 1. Ray florets, *upper side*:

*Immature:* Near 46B and 9A  
*Mature:* Near 46C and 9B  
*Older/Fading:* Near 46D and 9C

2. Ray florets, *under side*:

*Immature:* Near 4A  
*Mature:* Near 4B  
*Older/Fading:* Near 4C

## 3. Disc florets:

*Immature*: Near 144A

*Mature*: Near 154A

*Older/Fading*: Near 154B

## 5 4. Bud: 138B

Flower progression with age: Flower form does not change with age but there is a slight colour fading.

Other Distinguishing Characteristics: Foliage remains good with age.

## 10 10 Reproductive Organs

Gynoecium present on Ray and Disc florets.

## Ray florets:

*Pistil Number*: 25

*Stigma color*: Near 6C

15 *Stigma shape*: Forked

*Style Color*: Near 6C

*Style Length*: 0.2 cm

## Disc florets:

*Pistil Number*: >30<45

20 *Stigma color*: Near 6C

*Stigma shape*: Forked

*Style Color*: Near 6C

*Style Length*: 0.2 cm

Androecium: None observed to date

25 Fruit and Seeds: None observed to date